ABSTRACT

An improved multi layered frangible seal is bonded over the pour spout opening of flexible plastic bottle containers of the type used for storing and dispensing pourable products such as motor oil or transmission fluid and the like. The seal provides a leak proof closure that is only strong enough to remain intact when subjected to the pressure created by the weight of the liquid contents when the filled uncapped container is held in an inverted position. At the same time the seal is also weak enough to break open and dispense the contents when a set amount of additional pressure is brought to bear against the seal by a consumer squeezing the inverted container. The seal allows the pour spout of the inverted container to be inserted into the fill opening while remaining intact which prevents any spilling of the contents. The seal is then broken open by the consumer squeezing the flexible bottle which dispenses the contents into the fill opening thereby eliminating the need for a fill funnel. The seal invention is constructed of a first layer of leak proof frangible material that is bonded to an additional layer of material. The additional layer of material contains one or more cut through and/or cut out void configurations forming a breaking pattern that turns the additional layer into a break and tear template layer. Bonding the template layer to the frangible layer strengthens the surface area of the frangible layer every where except in the area of the breaking pattern by leaving only the first frangible layer covering over the cut through and / or cut out void configuration forming the breaking pattern. This leaves a weakness in the multi layered seal only in the area of the breaking pattern which forces the seal to break open and tear only in the weaker single layered area of the breaking pattern configuration when sufficient pressure is brought to bear against the seal by a consumer squeezing the inverted container. The use of a separate layer of material to form the frangible area of the seal provides the ability to accurately control the thickness of the seal material that must break open, thus allowing the burst pressure of the seal to be precisely set. An uncut area of the breaking pattern forms a connector that keeps the broken open portion of the seal attached to the annular portion of the seal remaining bonded to the pour spout rim thus preventing any contamination of the dispensed contents when the seal breaks open.